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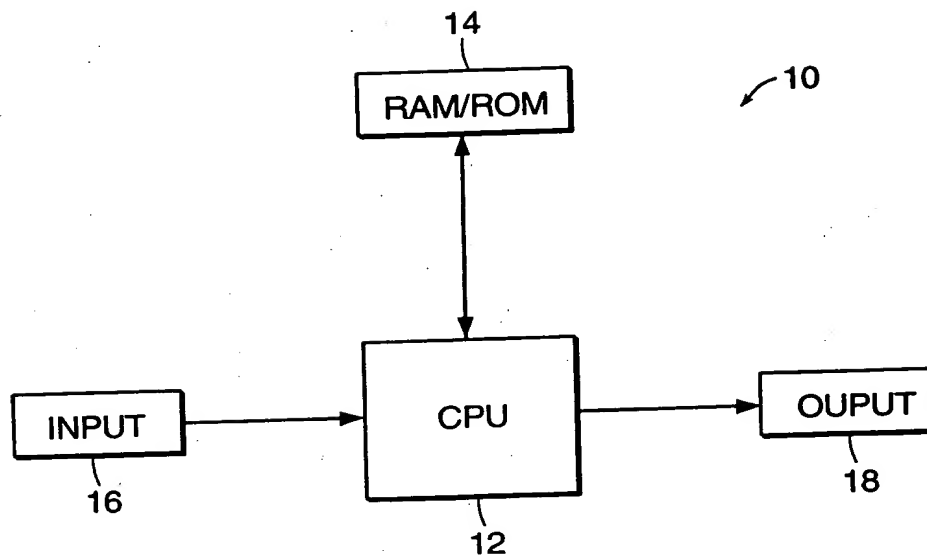


FIG. 1



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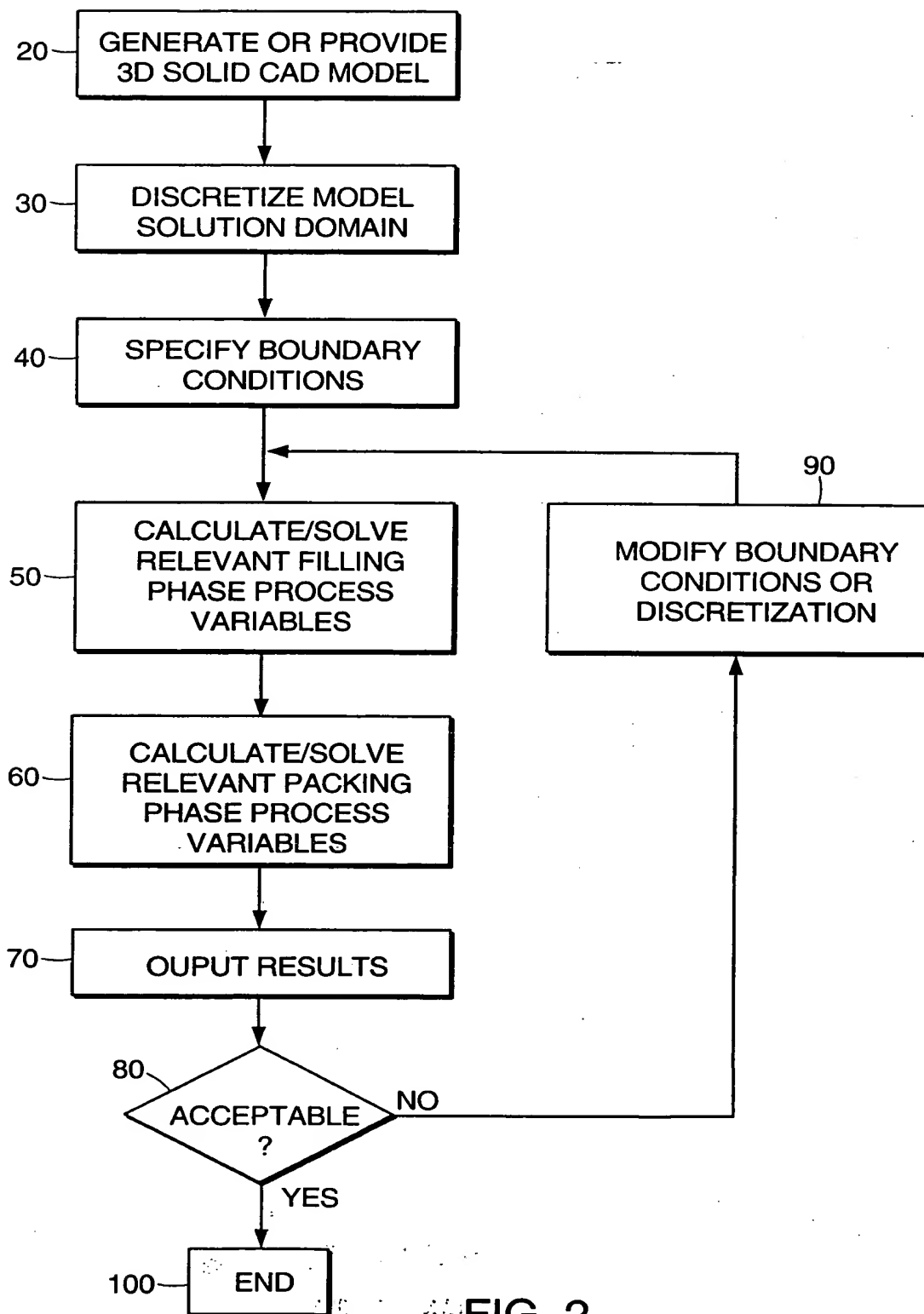


FIG. 2



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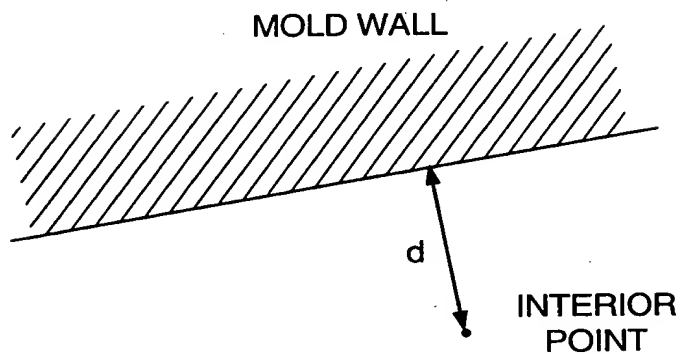


FIG. 3A

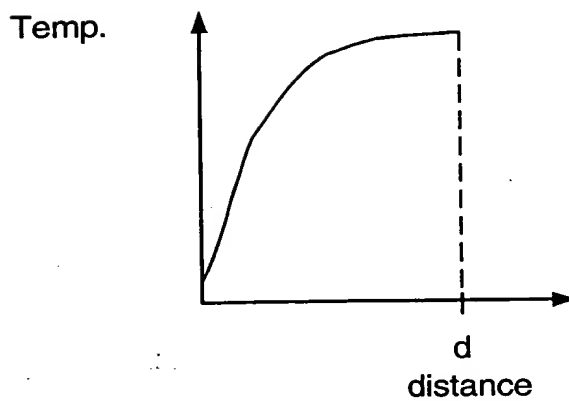


FIG. 3B



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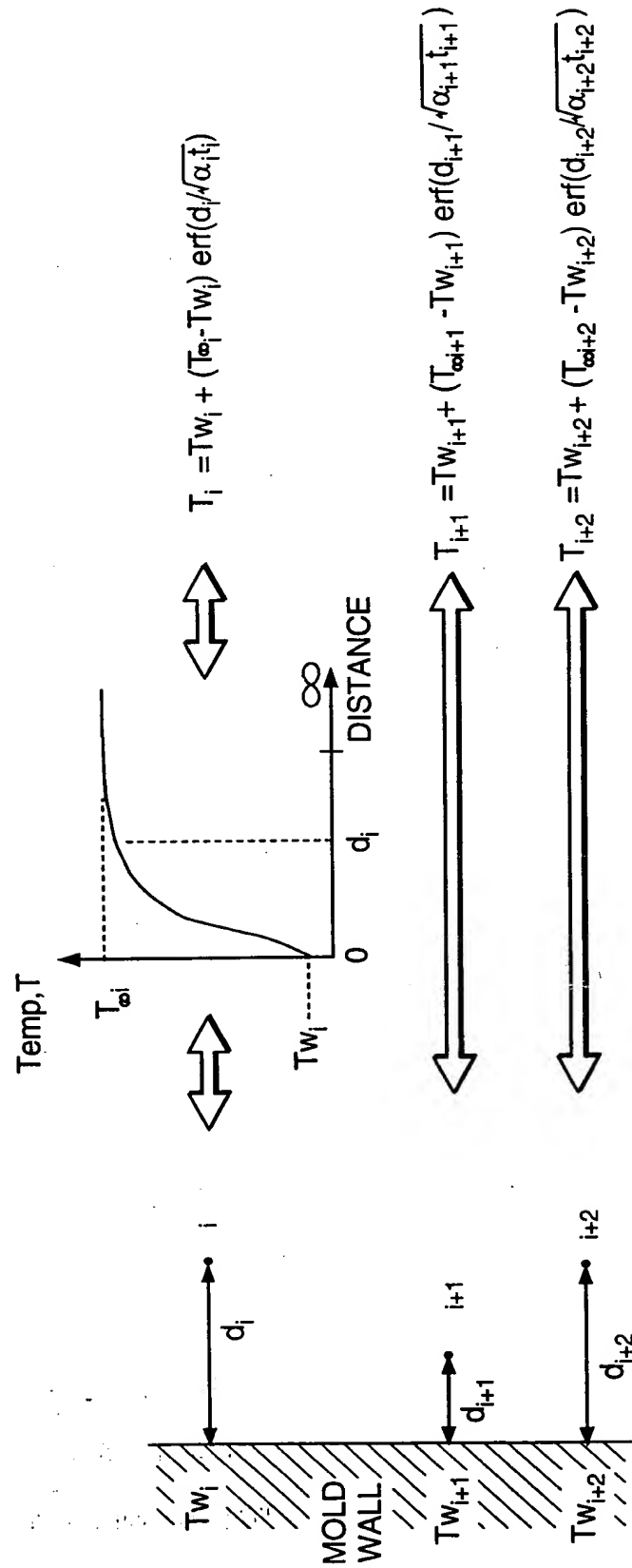


FIG. 4



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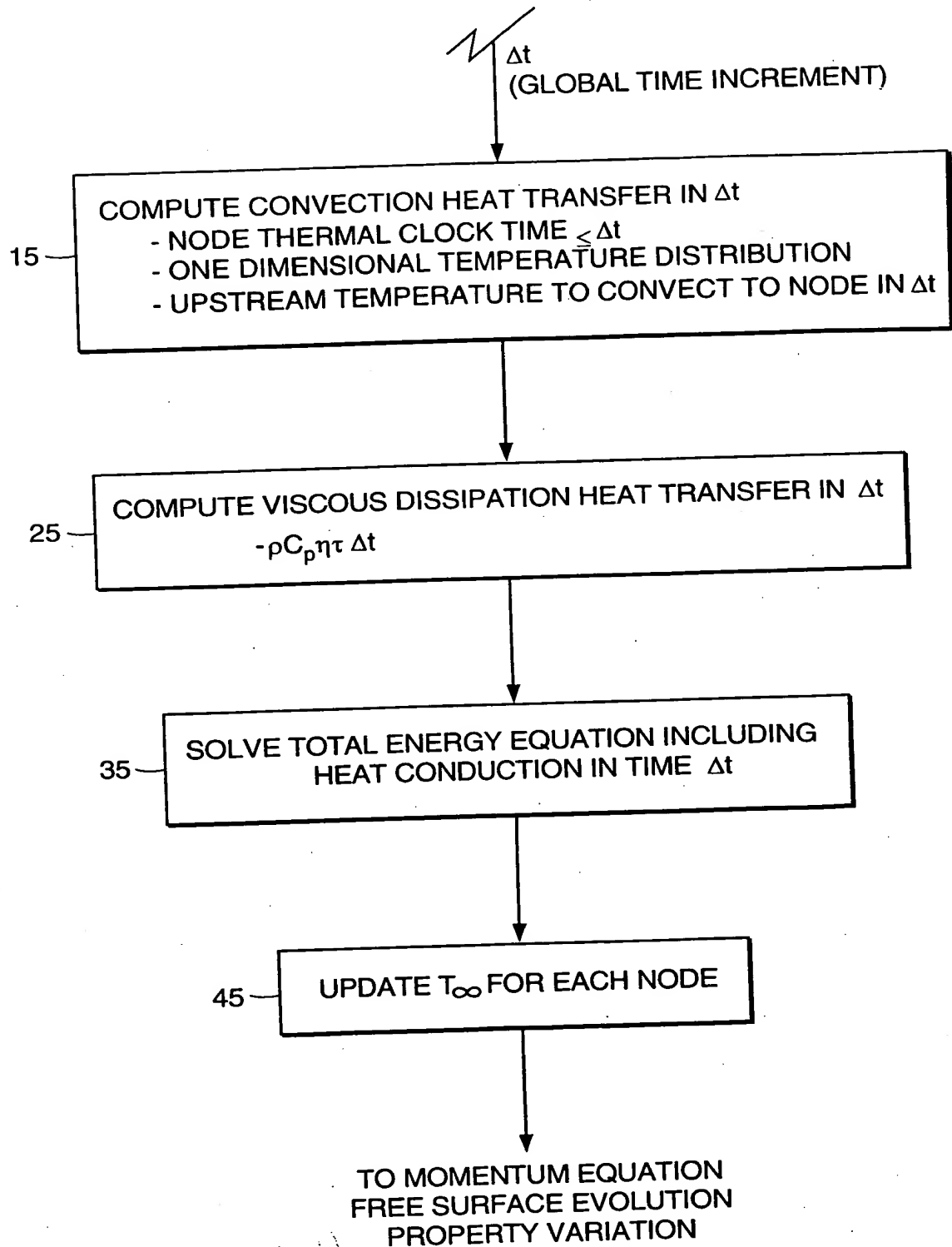


FIG. 5



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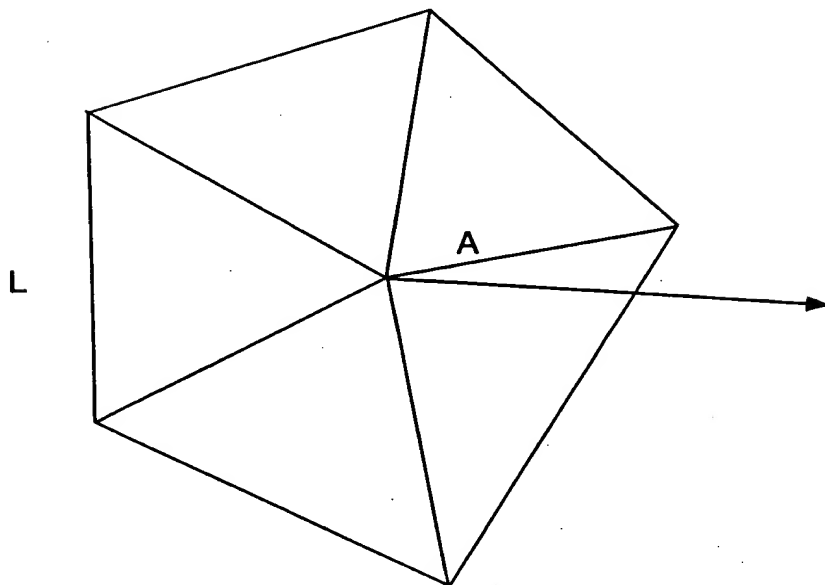


FIG. 6

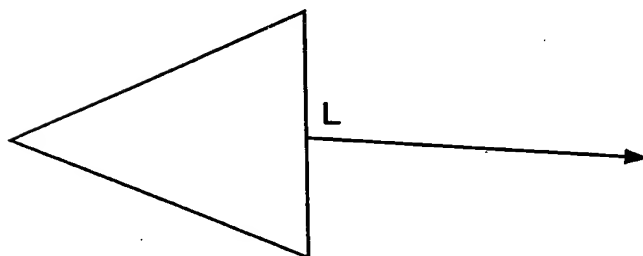


FIG. 7



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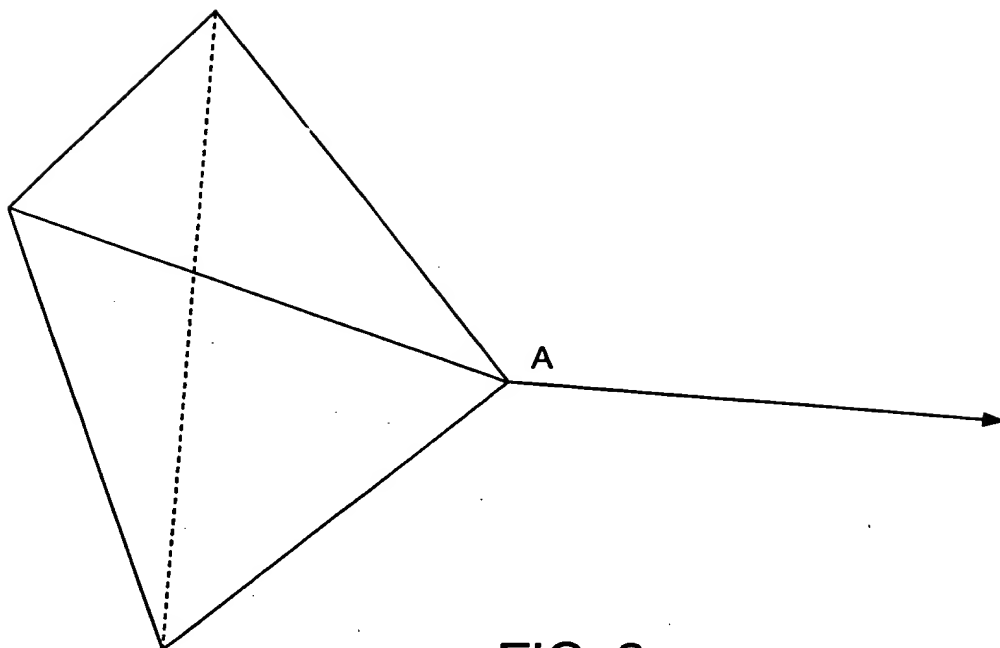


FIG. 8

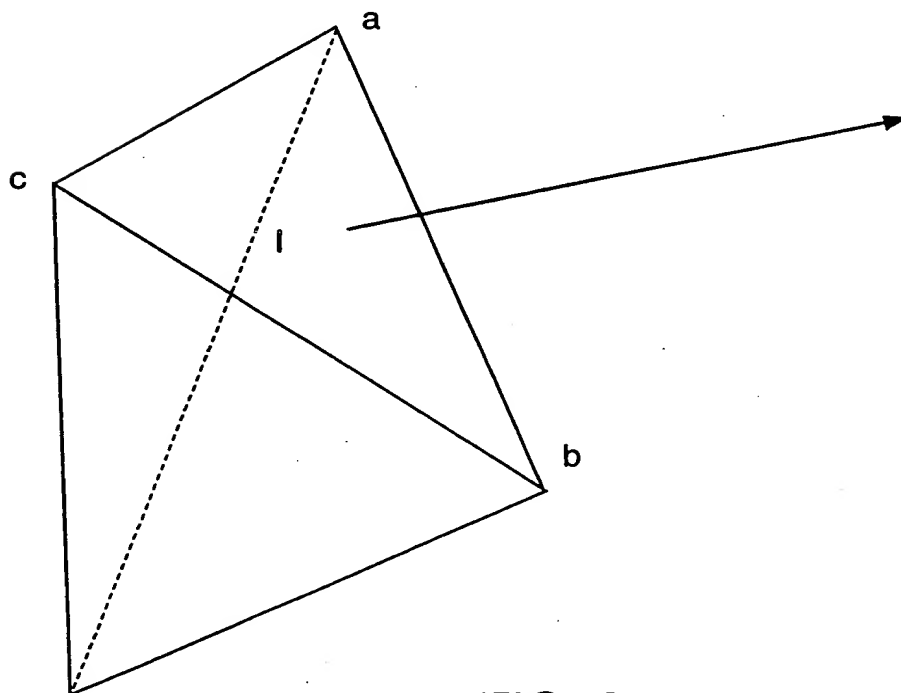
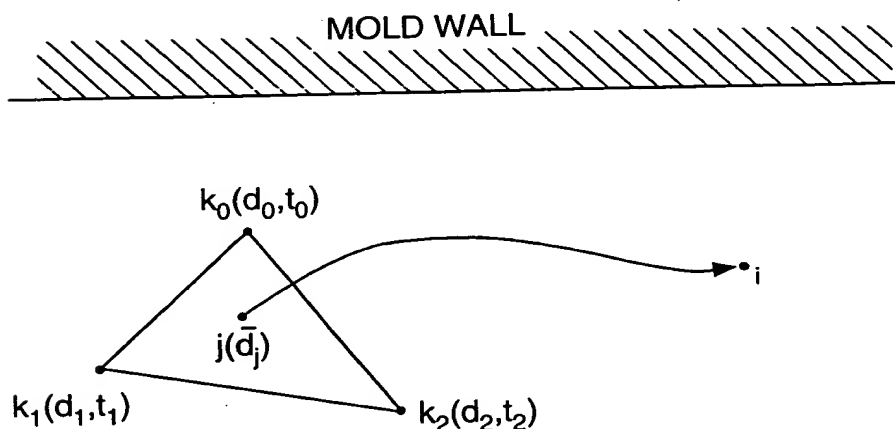


FIG. 9



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$i$  = TARGET NODE  
 $j$  = UPSTREAM POINT  
 $k_0, k_1, k_2$  = NODES OF ELEMENT CONTAINING THE UPSTREAM POINT  
 $(d_0, t_0)(d_1, t_1)(d_2, t_2)$  ARE THE DISTANCE TO THE WALL AND NODE THERMAL  
 CLOCK TIMES FOR EACH UPSTREAM NODE RESPECTIVELY  
 $\bar{d}_j$  = INTERPOLATED DISTANCE TO THE WALL OF THE UPSTREAM POINT

FIG. 10A

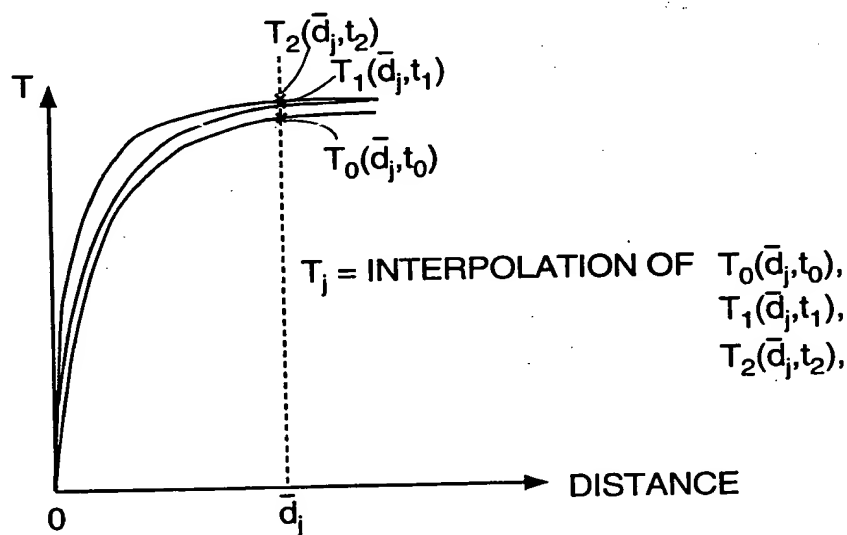


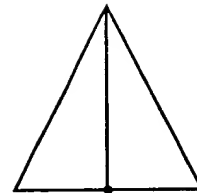
FIG. 10B



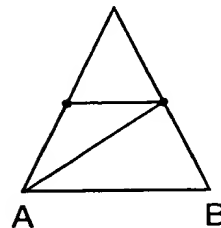


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FOR A FACE WITH ONE EDGE REFINED:



FOR A FACE WITH TWO EDGES REFINED:  
WHERE  $A < B$



FOR A FACE WITH ALL THREE EDGES REFINED

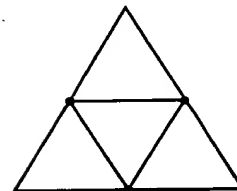


FIG. 11



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TEMPLATE FOR SPLITTING A TET ON:

1 EDGE:

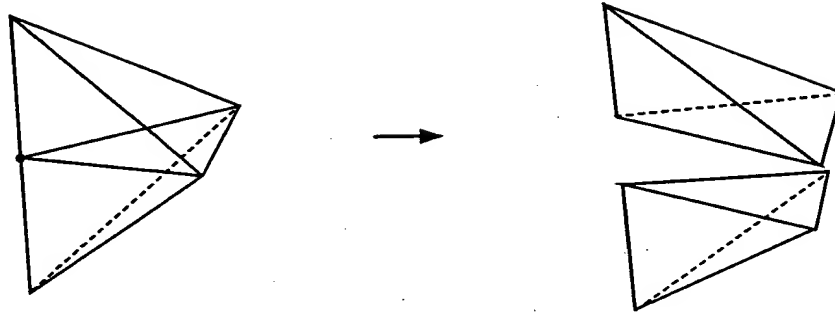


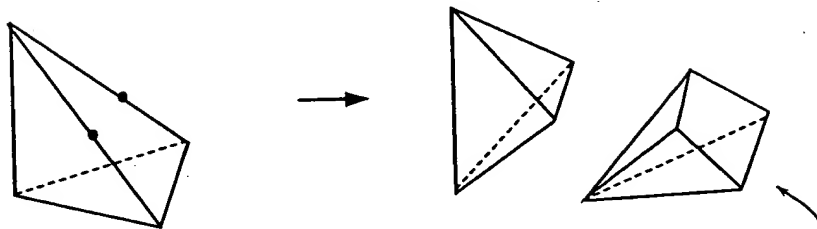
FIG. 12



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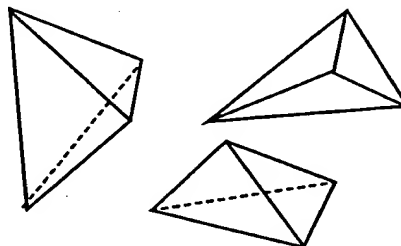
## TEMPLATE FOR SPLITTING A TET ON

### 2 EDGES



NOTE THAT THERE IS A TEMPLATE FOR SPLITTING THE  
FOUR-SIDED BASE PYRAMID

THIS RESULTS IN:



AS A CLOSED GROUP WITH NEW EDGES MARK

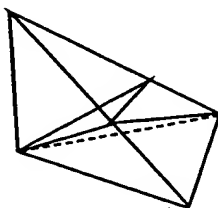


FIG. 13A



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## TEMPLATE FOR SPLITTING A "FOUR-SIDED BASE" PYRAMID

INTO TWO TETS

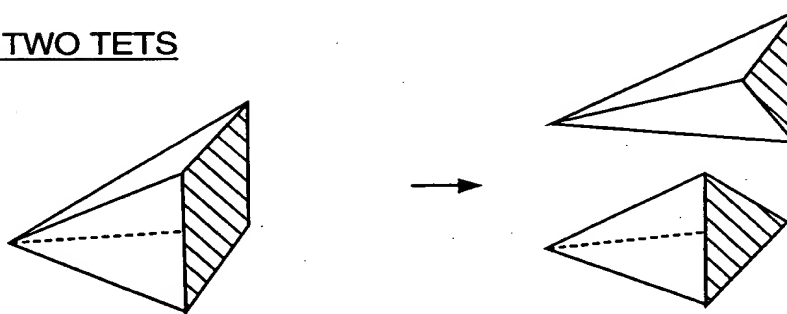


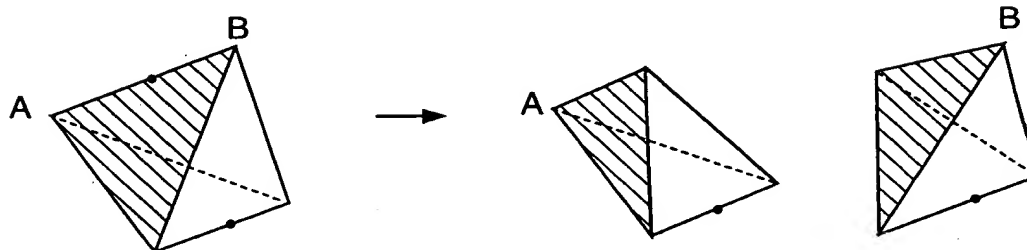
FIG. 13B



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### TEMPLATE FOR SPLITTING A TET ON

2 EDGES (OPPOSITE)



THE FINAL COMPACT RESULT WILL BE:

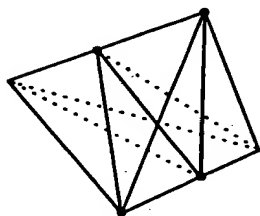


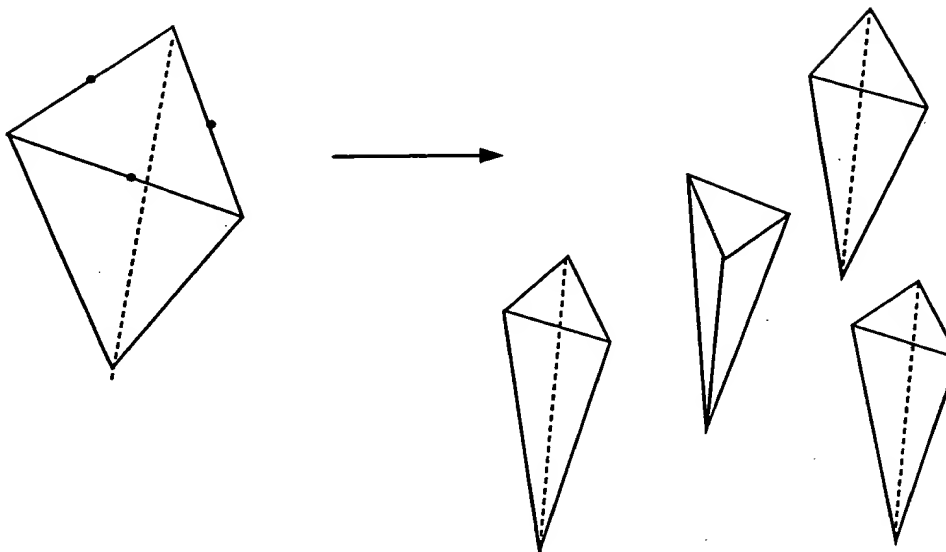
FIG. 13C



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# TEMPLATE FOR SPLITTING A TET ON:

3 EDGES (SHARED FACE)



IN CLOSED FORM

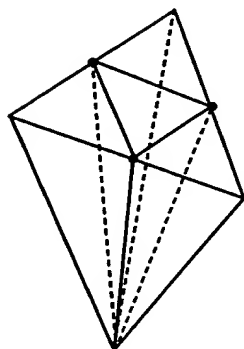


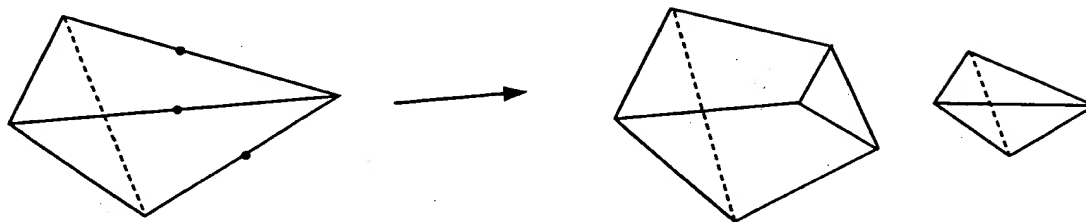
FIG. 14A



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TEMPLATE FOR SPLITTING A TET ON:

3 EDGES (NON-SHARED FACE)



THE FINAL RESULT WILL BE:

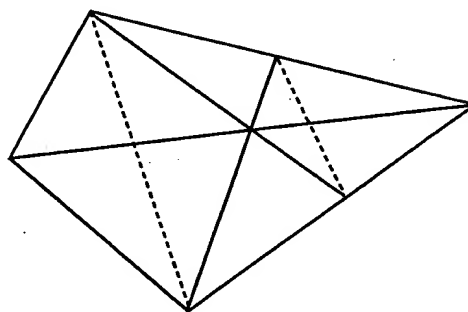
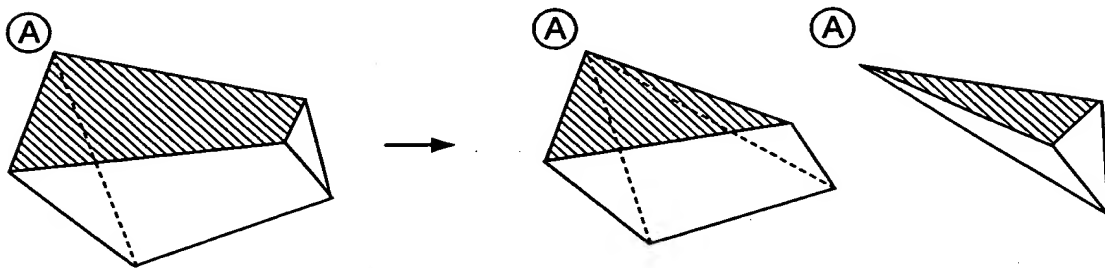


FIG. 14B



TEMPLATE FOR SPLITTING A TRIANGULAR PRISM



THEREFORE THE FINAL RESULT WOULD BE:

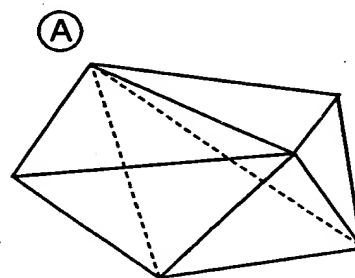


FIG. 14C





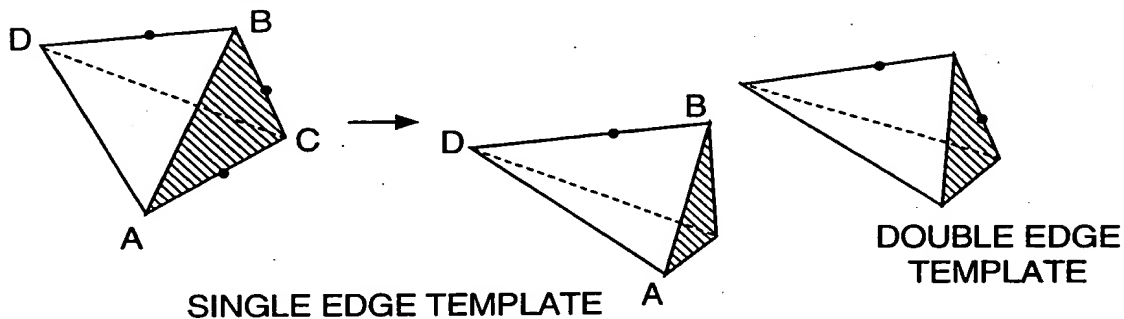
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## TEMPLATE FOR SPLITTING A TET ON

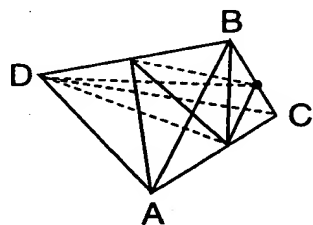
3 EDGES (IN SERIES)

NON FACE, NON SHARED POINT

\* IF B OR C ARE THE LOWEST NODE NUMBER (PICTURE FOR B)



FINAL RESULT



ALL FACES ARE EITHER  OR 

\* IF A OR D ARE THE LOWEST NODE MEMBER

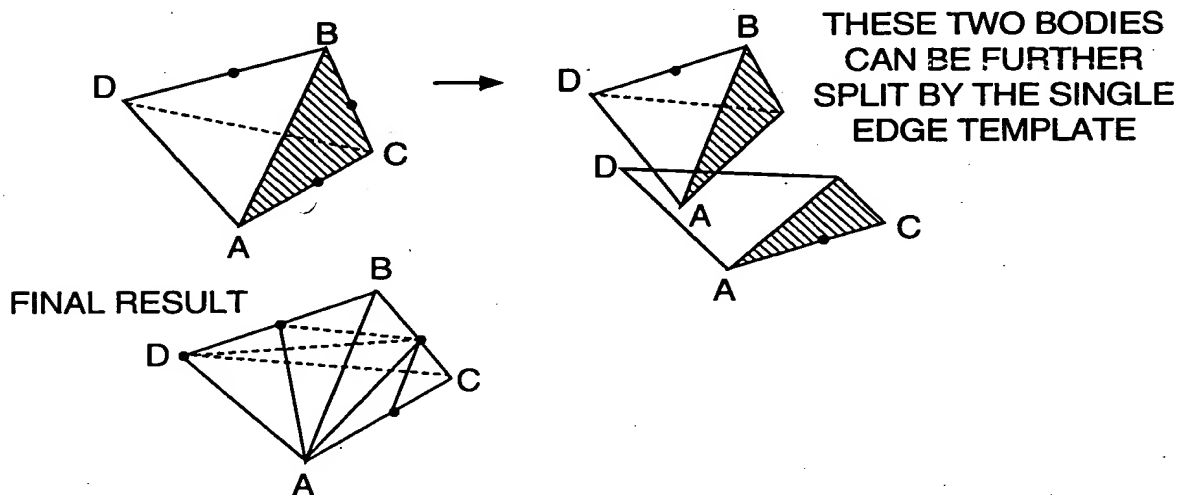
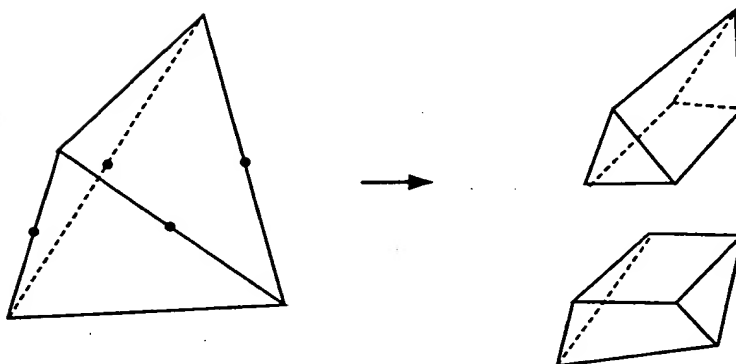


FIG. 14D



TEMPLATE FOR SPLITTING A TET ON  
4 EDGES (OPPOSITE EDGES)



THE EVENTUAL SPLIT BODY IN CLOSED FORM

THE PATTERN ON EACH ORIGINAL TRIANGLE FACE IS:



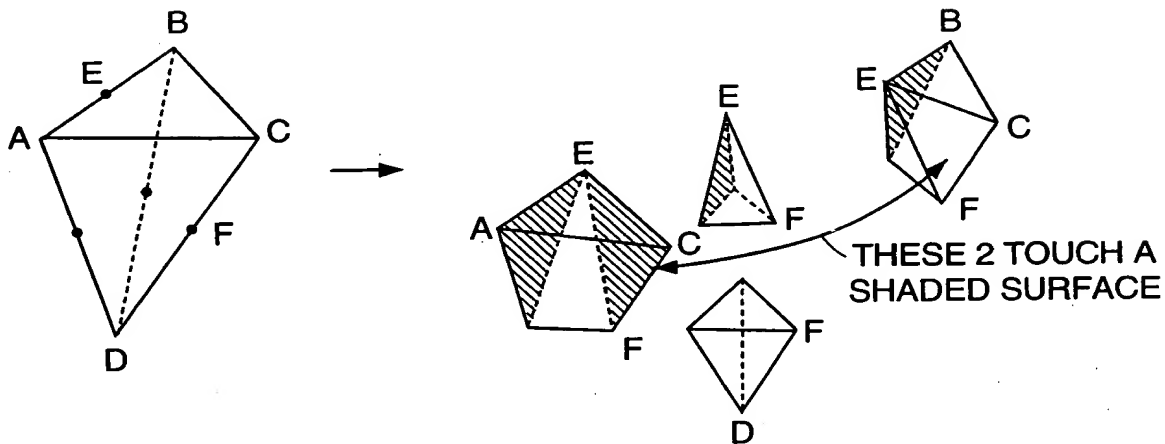
FIG. 15A



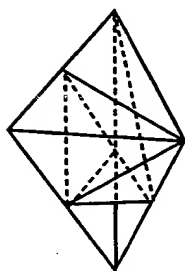
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### TEMPLATE FOR SPLITTING A TET ON

#### 4 EDGES (ADJACENT EDGES)



#### THE COMPACTED ORIGINAL TET IS:



#### FACES APPEAR AS

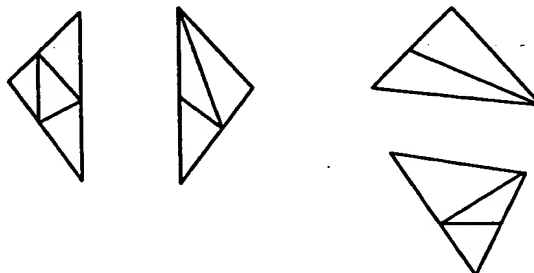
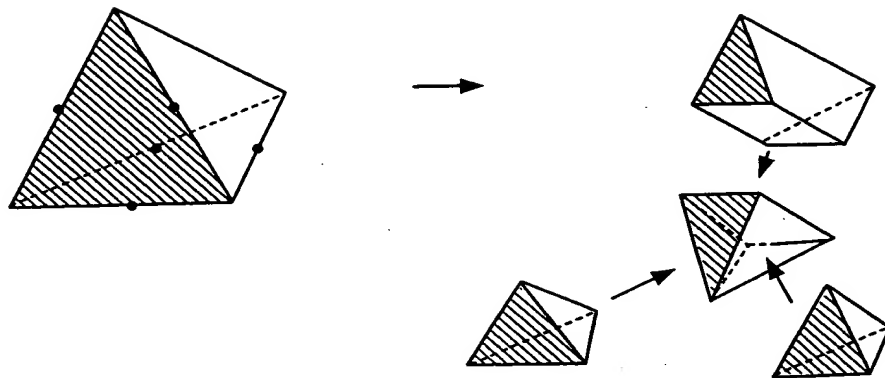


FIG. 15B



TEMPLATE FOR SPLITTING A TET ON:

5 EDGES



THE FINAL COMPACTED RESULT IS:

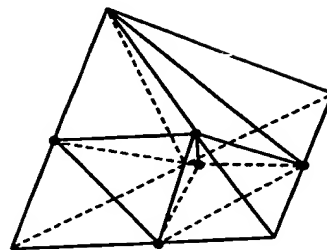
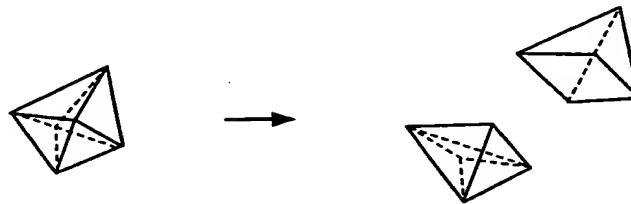
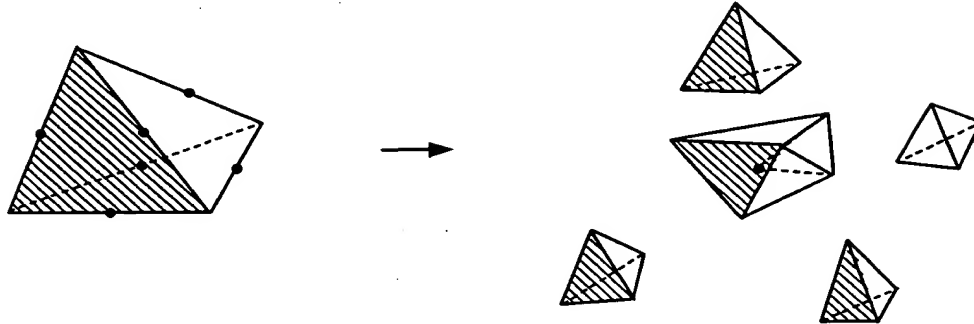


FIG. 16

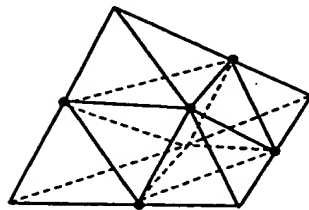


# TEMPLATE FOR SPLITTING A TET ON

## 6 EDGES



## THE RESULTING COMPACTED BODY IS:



ALL FACES HAVE THE  
FOLLOW SPLIT PATTERN

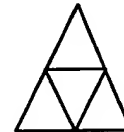


FIG. 17



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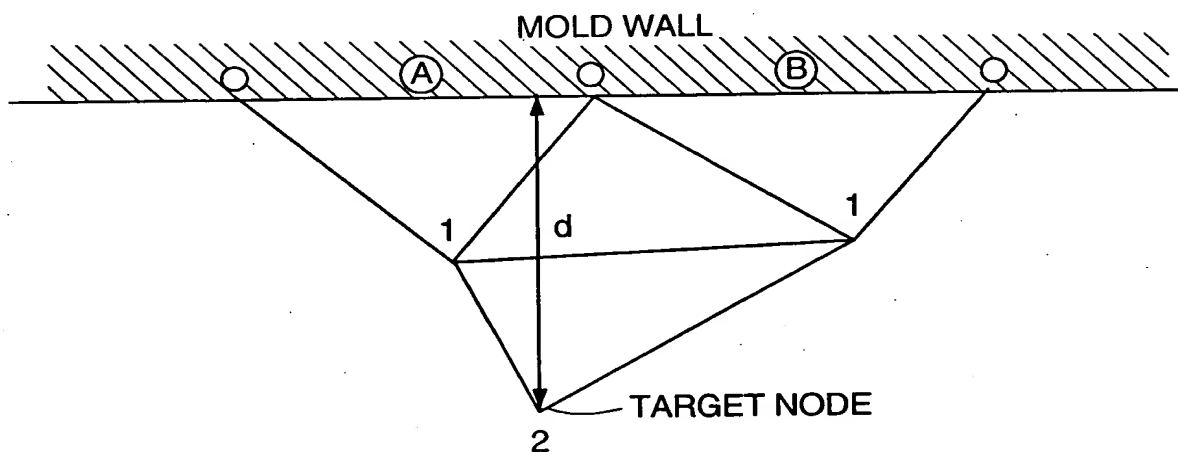


FIG. 18A

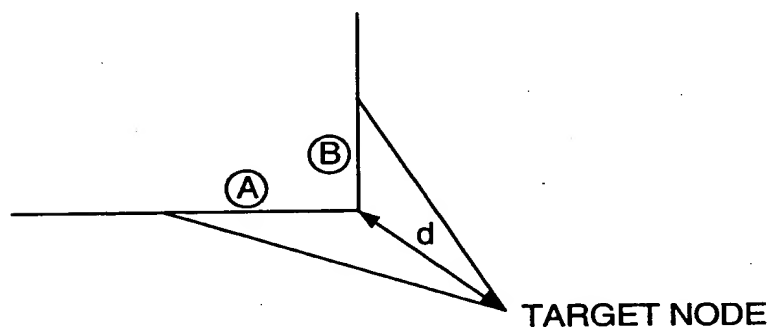


FIG. 18B



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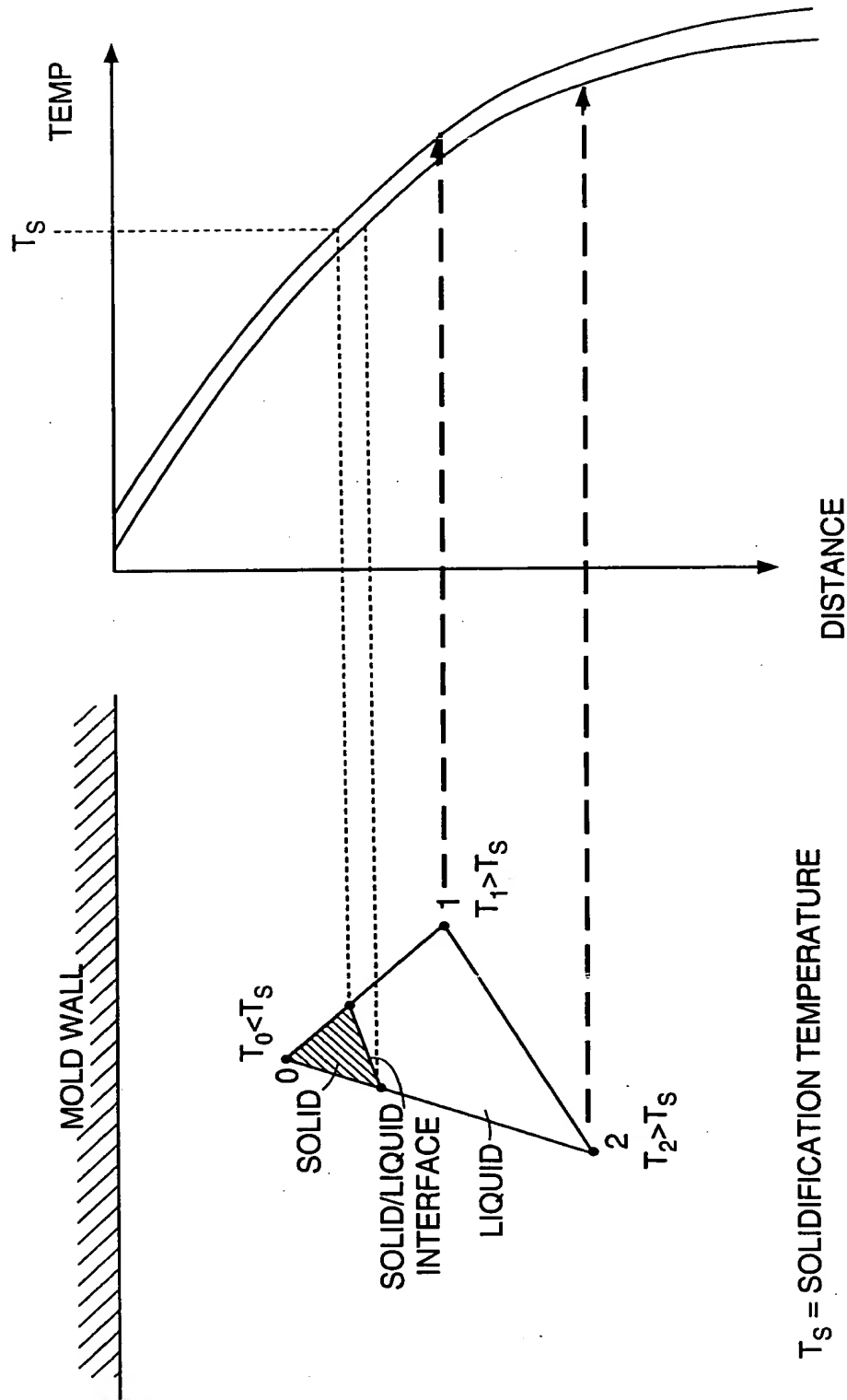


FIG. 19



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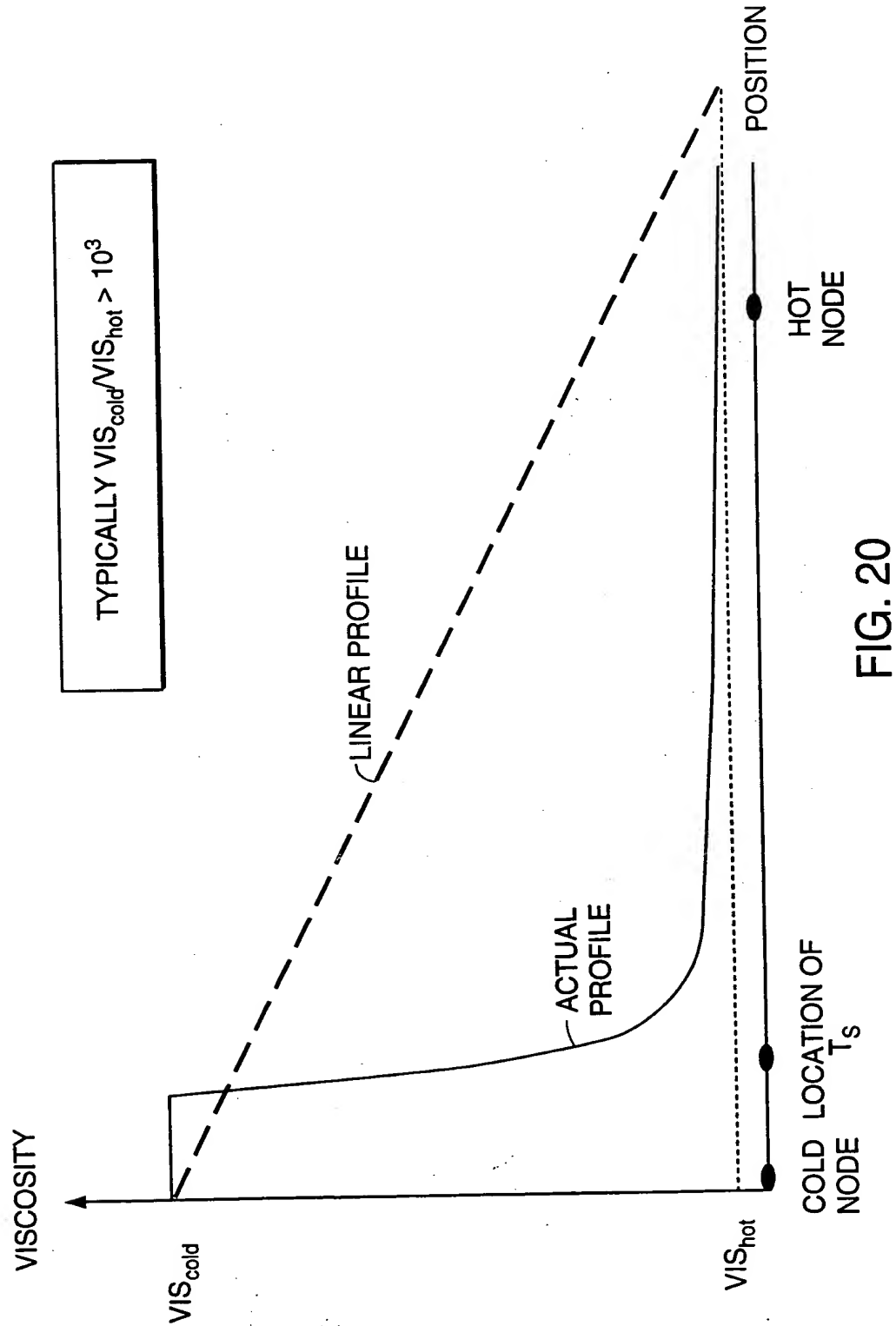


FIG. 20





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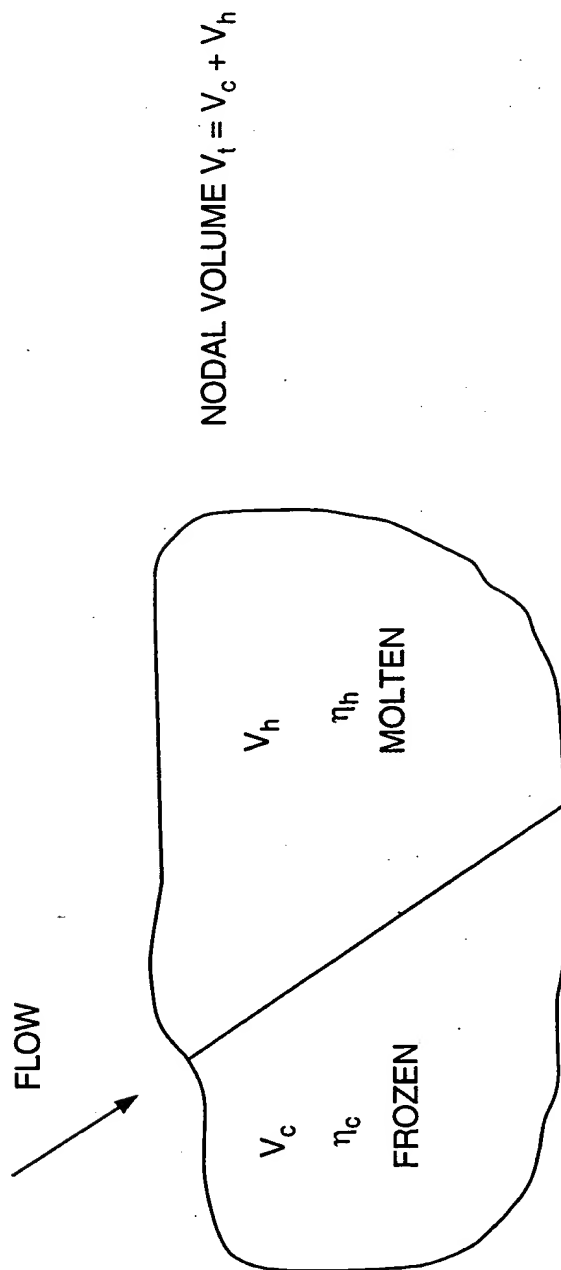


FIG. 21



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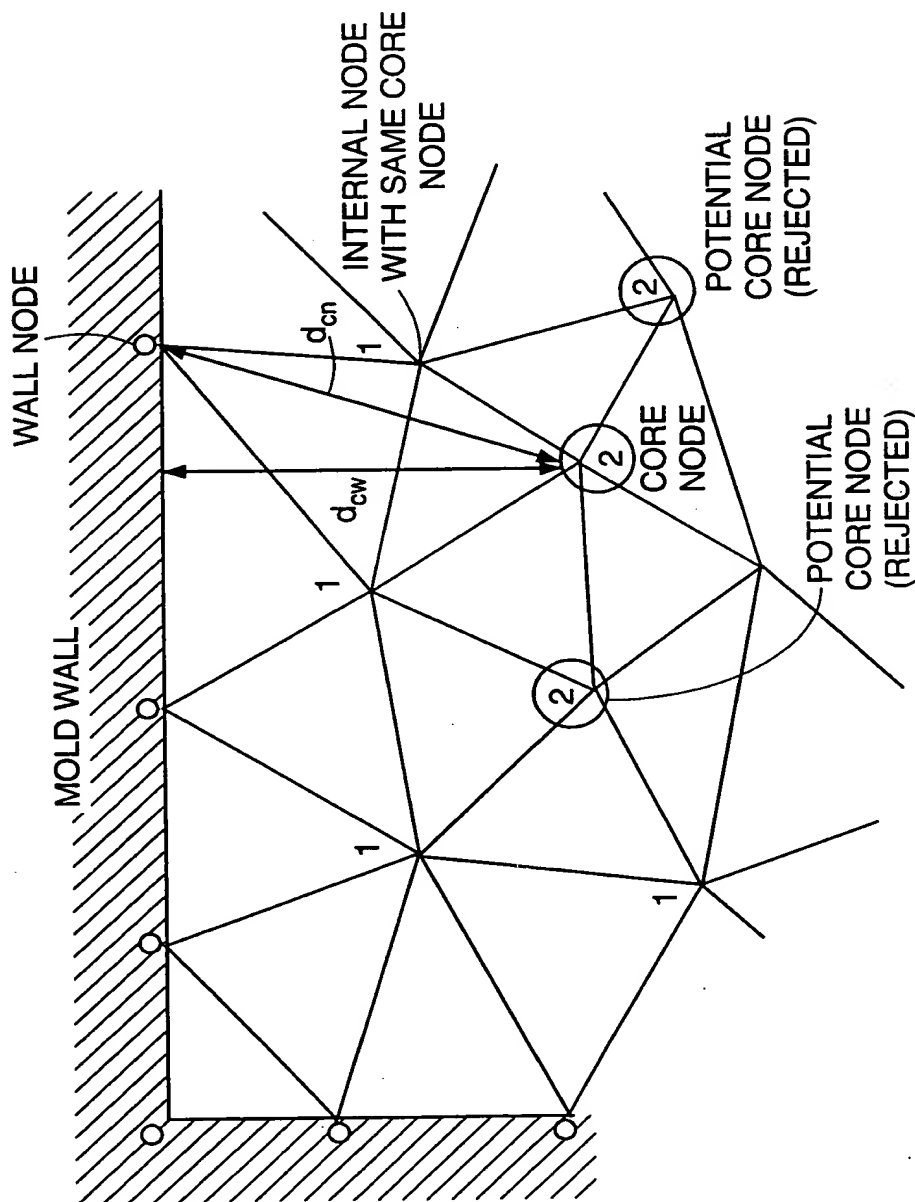


FIG. 22



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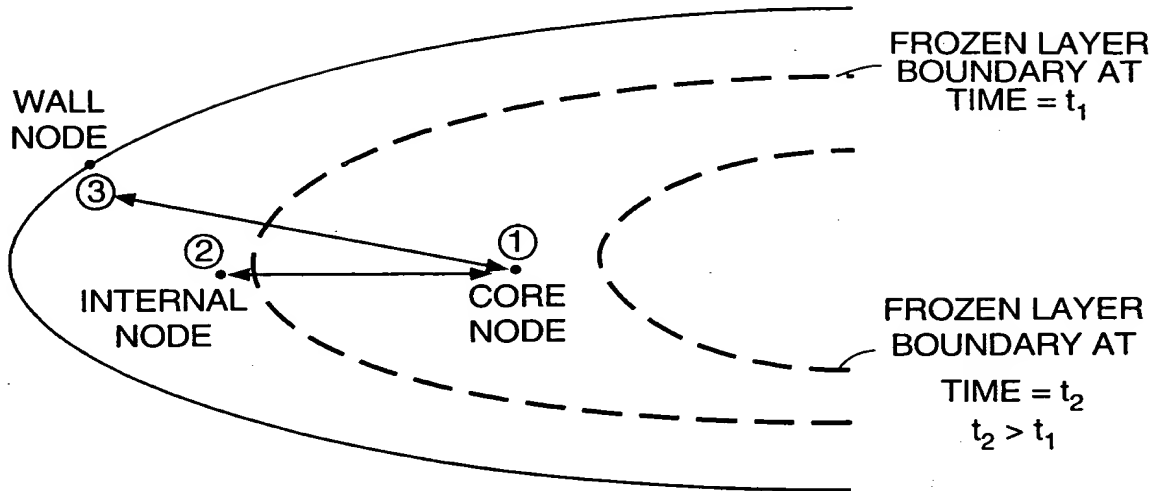


FIG. 23A

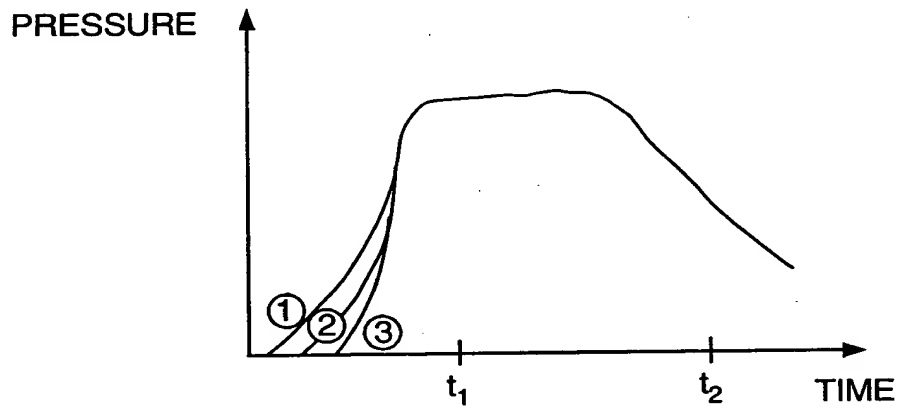


FIG. 23B

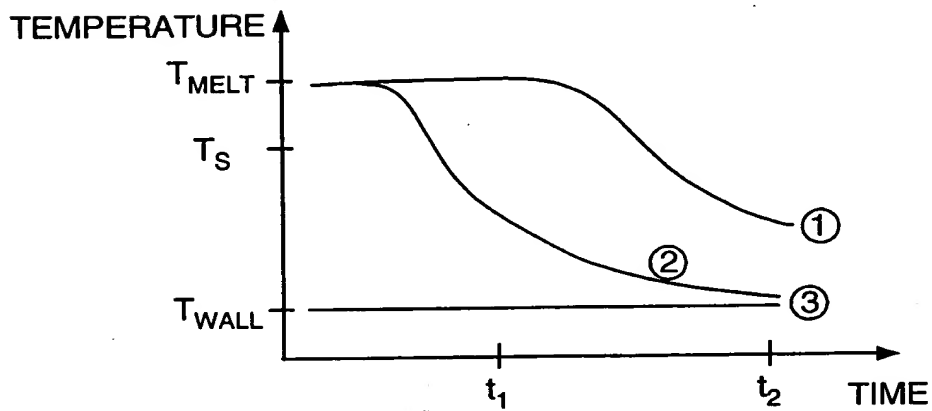
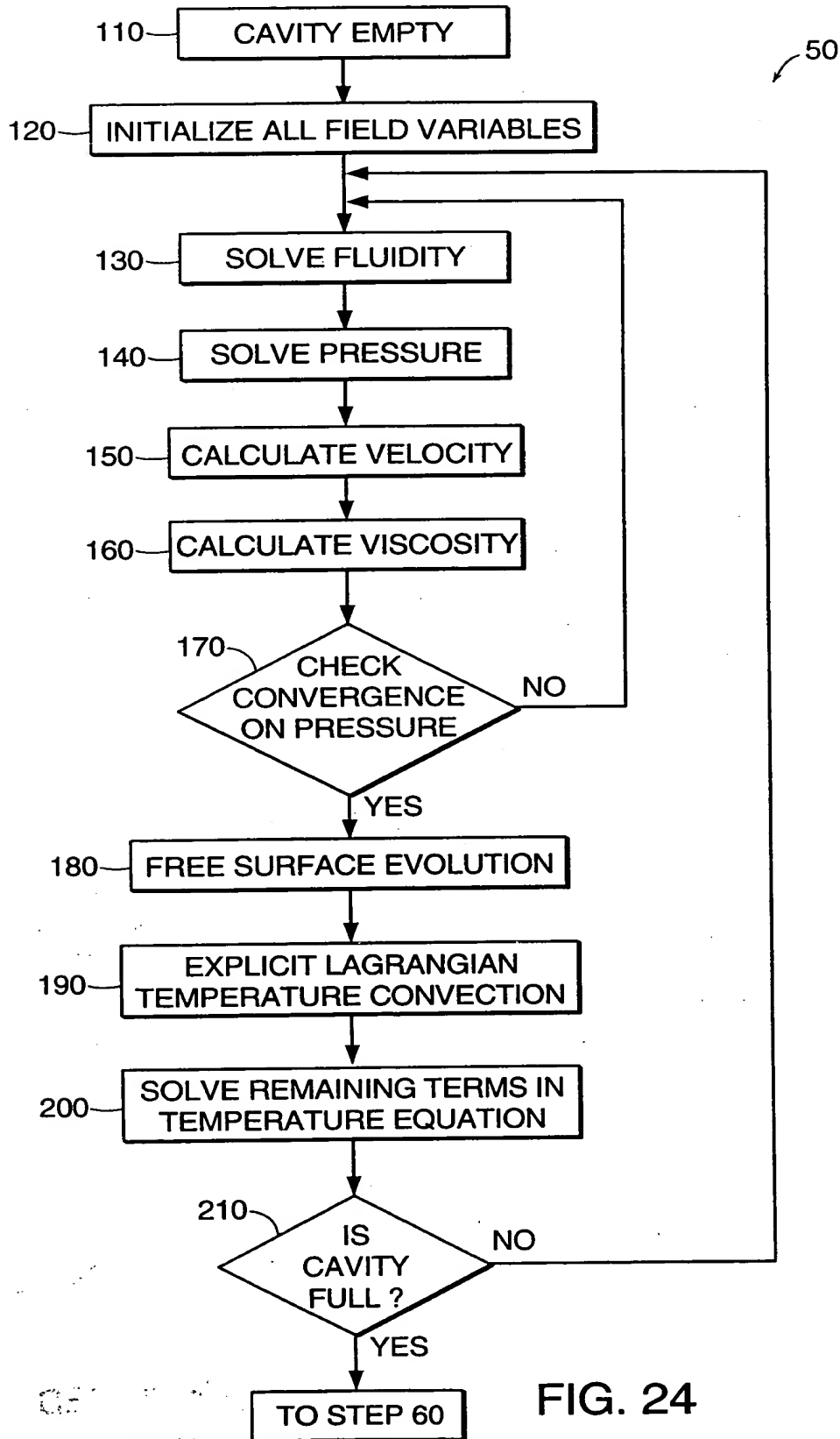


FIG. 23C



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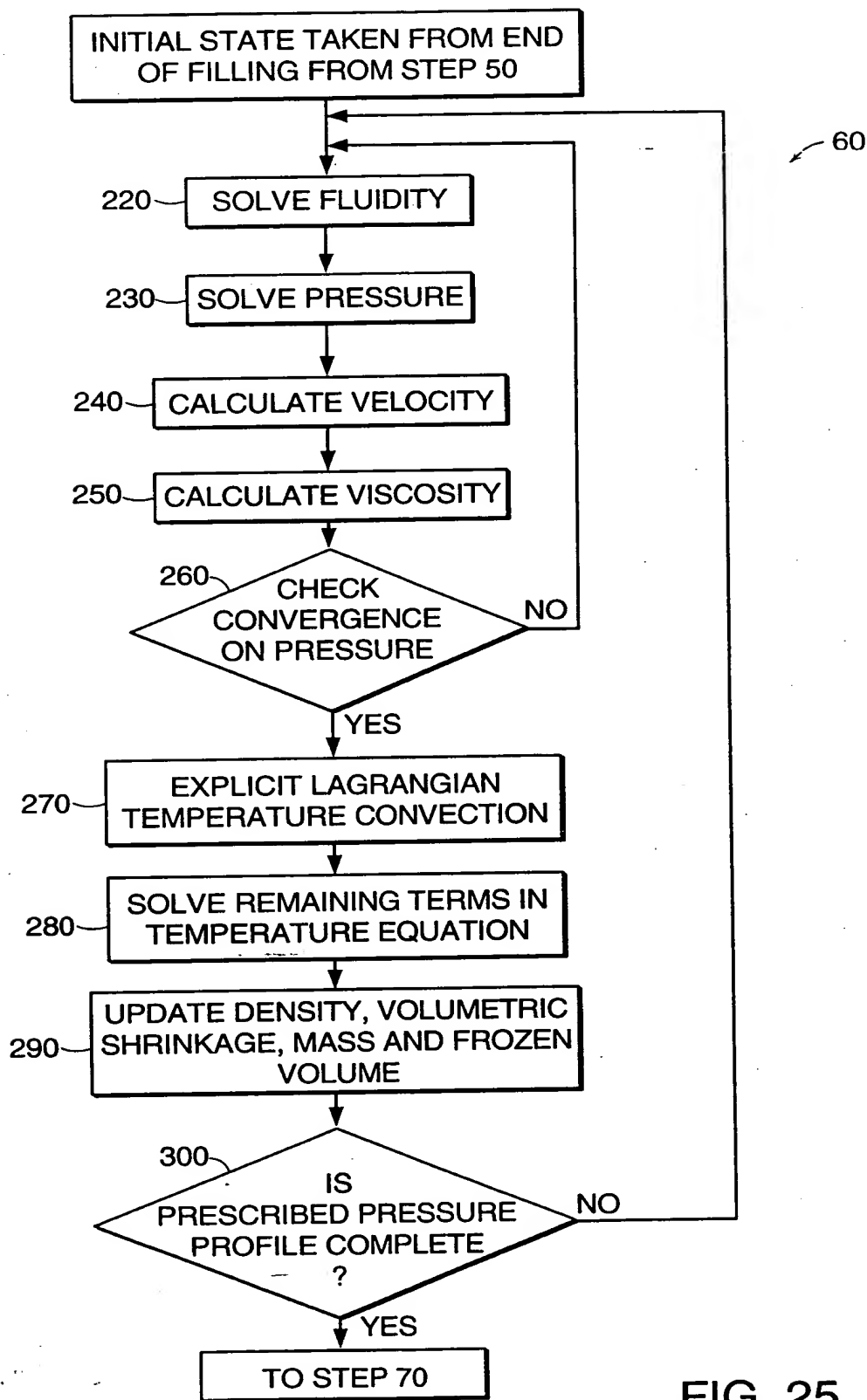


FIG. 25